

Appl. No. 10/099,631
Amdt. Dated Mar. 9, 2004
Reply to Office action of December 9, 2003

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (original): An electrical variable optical attenuator for attenuating input optical signals, comprising:

a housing having a front wall, and a bottom wall defining a plurality of positioning holes therein;

an input optical fiber and an output optical fiber mounted in the front wall for transmitting the input optical signals and attenuated output optical signals, respectively;

an optical module received in the housing and having first and second reflective mirrors mounted therein, wherein the input optical signals from the input optical fiber are successively reflected by the first and the second reflective mirrors to enter the output optical fiber;

an attenuating device movably mounted in the optical module, said attenuating device having a graded optical absorbent filter through which the optical signals pass when reflected from the first to the second reflective mirror; and

an electrical controlling unit for controlling movement of the attenuating device in the optical module so that the optical signals reflected from the first to the second reflective mirror can pass through different parts of the graded optical absorbent filter; the electrical controlling unit comprising a stepping motor

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drivably connecting with the attenuating device, and a terminal holder; the terminal holder comprising a plurality of conductive terminals adapted for connecting an external power supply with the stepping motor, an insulating plate to which the conductive terminals are secured, and a plurality of terminal sleeves depending from a bottom face of the insulating plate and fitting into the positioning holes of the bottom wall of the housing, the bottom face abutting against the bottom wall of the housing, said conductive terminals extending through the sleeves.

Claim 2 (original): The electrical variable optical attenuator as described in claim 1, wherein the insulating plate is made of rubber, and the housing is made of metal.

Claim 3 (original): The electrical variable optical attenuator as described in claim 1, wherein the terminals, the terminal sleeves and the insulating plate are combined together by insert molding.

Claim 4 (original): The electrical variable optical attenuator as described in claim 3, wherein each of the conductive terminals comprises a protrusion engaging with the insulating plate.

Claim 5 (original): The electrical variable optical attenuator as described in claim 4, wherein the protrusion has a bead-like configuration.

Claim 6 (original): The electrical variable optical attenuator as described in claim 1, wherein each of the terminal sleeves has a generally cylindrical configuration.

Claim 7 (original): The electrical variable optical attenuator as described in claim 6, wherein each of the terminal sleeves has a diameter slightly greater than a

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diameter of a corresponding positioning hole of the housing.

Claim 8 (original): The electrical variable optical attenuator as described in claim 6, wherein each of the terminal sleeves has a bevelled lower end for easy insertion into a corresponding positioning hole of the housing.

Claim 9 (original): The electrical variable optical attenuator as described in claim 1, wherein the filter has a continuously changing coefficient of optical absorption along its length, whereby when the attenuating device is moved by the stepping motor, the optical signals passing from the first reflective mirror through the filter to the second reflective mirror are attenuated to a different extent.

Claim 10 (currently amended): An electro-optic module comprising:

a casing defining at least one wall with a plurality of positioning holes therein;
an optical module received in the casing; and

an electrical controlling unit received in the casing for use with the optical module, said unit including a terminal holder having an insulating plate with a plurality of conductive terminals retained thereto, a plurality of sleeves integrally extending downwardly from a bottom face of the insulating plate and dimensioned to comply with the corresponding positioning holes; wherein

said sleeves with the corresponding terminals extending therethrough, are fitted into the corresponding positioning holes, respectively, under a condition that the terminals extend downwardly out of the corresponding wall and the sleeves are compactly received in the corresponding positioning holes hermetically.